

## REMARKS

The above referenced patent application has been reviewed in light of the Office Action, dated May 27, 2003, in which:

- the drawings are objected to;
- claims 1-19 and 23-27 are rejected under 35 U.S.C. § 101;
- and claims 1-4, 11-14 and 20 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Lotspiech *et al.* (hereinafter 'Lotspiech;' U.S. Patent No. 6,118,873) in combination with Luther (U.S. Patent No. 5,533,127).

Reconsideration of the above referenced patent application in view of the foregoing amendments and the following remarks is respectfully requested.

Claims 1-27 are now pending the above referenced patent application. No claims have been amended, added or cancelled.

A Petition for Extension of Time in order to extend the period for response 3 month(s), including the appropriate fee, is filed herewith.

### **1. Drawings**

The PTO has objected to the drawings. The original figures 2 and 3 each contained an inadvertent typographical error. New formal drawings have been attached to this document and are believed to address the concerns listed in the Office Action. In Fig. 2, element PUKCA has been renumbered from 200 to 220, as described in the specification on page 9, line 16. In Fig. 3, element 340 has been renamed from KSV3 to KSV2, as described in the specification on page

11, line 11. No new matter is added. It is respectfully requested that the PTO withdraw the drawing objection(s).

## 2. 35 U.S.C. § 101

The PTO has rejected claims 1-19 and 23-27 are rejected under 35 U.S.C. § 101. This rejection by the PTO of these claims is respectfully traversed.

35 U.S.C. § 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

### 2.1 Claims 1-18

The PTO has rejected claims 1-18 under 35 U.S.C. § 101 as being mathematical operations with no utility. The PTO has stated that the “**resultant matrix** is not utilized for any purpose.” This rejection by the PTO of these claims is respectfully traversed.

M.P.E.P. § 2107.02 sets forth the standard for a § 101 rejection based upon utility:

#### **2107.02 Procedural Considerations Related to Rejections for Lack of Utility An Asserted Utility Creates a Presumption of Utility**

In most cases, an applicant's assertion of utility creates a presumption of utility that will be sufficient to satisfy the utility requirement of 35 U.S.C. 101. See, e.g., *In re Jolles*, 628 F.2d 1322, 206 USPQ 885 (CCPA 1980); *In re Irons*, 340 F.2d 974, 144 USPQ 351 (CCPA 1965); *In re Langer*, 503 F.2d 1380, 183 USPQ 288 (CCPA 1974); *In re Sichert*, 566 F.2d 1154, 1159, 196 USPQ 209, 212-13 (CCPA 1977). As the Court of Customs and Patent Appeals stated in *In re Langer*:

As a matter of Patent Office practice, a specification which contains a disclosure of utility which corresponds in scope to the subject matter sought to be patented must be taken as sufficient to satisfy the utility requirement of § 101 for the entire claimed subject matter unless there is a reason for one skilled in the art to question the objective truth of the statement of utility or its scope.

Applicant respectfully asserts that the claims 1 & 11 **do not result in a matrix**, but in a “**shared secret key**.” One of the uses of the claimed invention is explicitly recited in the specification on page 3, lines 1-5. “[I]t would be desirable to develop a cryptographic technique

that provides the security advantages of public key cryptography without the disadvantages of being cumbersome and computationally intensive." It is noted that the stated use is merely one of the possible uses for the "shared secret key," and the invention is not limited to the cited use. Applicant respectfully reiterates the directive of M.P.E.P. § 2107.02 "As a matter of Patent Office practice, a specification which contains a disclosure of utility which corresponds in scope to the subject matter sought to be patented must be taken as sufficient to satisfy the utility requirement of § 101 for the entire claimed subject matter."

It is respectfully asserted that the PTO has failed to support a proper § 101 rejection for a variety of reasons. Likewise, claims 2-10 and 12-18 are patentable for similar reasons.

## 2.2 Claim 19

The PTO has rejected claim 19 under 35 U.S.C. § 101 "a computer program ... [that] does not fall within the statutory classes listed in 35 U.S.C. § 101." This rejection by the PTO of this claim is respectfully traversed.

M.P.E.P. § 2106 sets forth the standard for a § 101 rejections based upon computer related inventions, and more specifically the three types of statutory product claims:

### **M.P.E.P. § 2106: Patentable Subject Matter - Computer-Related Invention Statutory Subject Matter**

For the purposes of a 35 U.S.C. 101 analysis, it is of little relevance whether the claim is directed to a machine or a process. The legal principles are the same. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1357, 50 USPQ2d 1447, 1451 (Fed. Cir. 1999).

### **Statutory Product Claims**

Products may be either machines, manufactures, or compositions of matter.

A machine is "a concrete thing, consisting of parts or of certain devices and combinations of devices." *Burr v. Duryee*, 68 U.S. (1 Wall.) 531, 570 (1863).

A manufacture is "the production of articles for use from raw or prepared materials by giving to these materials new forms, qualities, properties or combinations, whether by hand labor or by machinery." *Chakrabarty*, 447 U.S. at 308, 206 USPQ at 196-97 (quoting *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11 (1931)).

A composition of matter is "a composition of two or more substances [or] . . . a[] composite article, whether [it] be the result[] of chemical union, or of mechanical mixture, or whether . . . [it] be [a] gas[], fluid[], powder[], or solid[]." *Id.* at 308, 206 USPQ at 197 (quoting *Shell Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd per curiam*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958)).

Applicant respectfully asserts that "a computer program" is not *per se* non-statutory matter, and notes that the M.P.E.P. § 2106: "Patentable Subject Matter - Computer-Related Inventions" is devoted to the patentability of "computer programs."

The PTO asserts that claim 19 defines "a computer program;" however, it is respectfully asserted that claim 19, in the first four words, defines "A machine readable medium." Applicant respectfully asserts that as a machine readable medium, claim 19 fits within the three § 101 statutory product classes. It is respectfully asserted that the PTO has failed to support a proper § 101 rejection for a variety of reasons.

### 2.3 Claims 23-27

The PTO has rejected claims 23-27 under 35 U.S.C. § 101 as being a "function" comprising "software." This rejection by the PTO of these claims is respectfully traversed.

Applicant respectfully reasserts that "a computer program" is not *per se* non-statutory matter. M.P.E.P. § 2106 sets forth the standard for a § 101 rejections based upon computer related inventions, and more specifically the three types of statutory product claims:

#### **M.P.E.P. § 2106: Patentable Subject Matter - Computer-Related Invention Statutory Subject Matter**

For the purposes of a 35 U.S.C. 101 analysis, it is of little relevance whether the claim is directed to a machine or a process. The legal principles are the same. *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1357, 50 USPQ2d 1447, 1451 (Fed. Cir. 1999).

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*Development Co. v. Watson*, 149 F. Supp. 279, 280, 113 USPQ 265, 266 (D.D.C. 1957), *aff'd per curiam*, 252 F.2d 861, 116 USPQ 428 (D.C. Cir. 1958)).

Applicant respectfully asserts that the device of **claim 23 is not a “function”, but a machine** comprising two devices: a memory and a logic. Figure 1 illustrates an embodiment where the machine of claim 19 interacts with two other machines, the first and second digital platforms. Therefore, as a machine, claim 19 falls into one of the three statutory product classes and is patentable under § 101. Applicants respectfully note that the capabilities of the devices provide sufficient non-obvious novelty to render the claim patentable on other grounds.

It is respectfully asserted that the PTO has failed to support a proper § 101 rejection for a variety of reasons. Likewise, claims 24-27 are patentable for similar reasons.

### **3. 35 U.S.C. § 103(a)**

#### ***3.1 Lotspiech and Luther: Claims 1-4, 11-14 and 20***

The PTO has also rejected claims 1-4, 11-14 and 20 under 35 U.S.C. § 103(a) based upon Lotspiech in combination with Luther. The rejection of these claims is respectfully traversed.

M.P.E.P. § 706.02(j) sets forth the standard for a § 103(a) rejection:

To establish a prima facie case of obviousness, three basic criteria must be met.

First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or combine reference teachings.

Second, there must be a reasonable expectation of success.

Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991) (whitespace added).

Applicant begins with claim 1. Claim 1 recites:

1 (Original) 1. A method comprising:

1 providing a key matrix having N rows and M columns of matrix keys, where  $N \geq 2$  and  $M \geq 2$ ;  
2 for each column of the key matrix, performing arithmetic operations on matrix keys of at least  
3 two selected rows of the key matrix to produce a first set of secret device keys;  
4 producing a shared secret key based on arithmetic operations on selected secret device keys of  
5 the first set of secret device keys.

Applicant respectfully asserts that the combination set forth by the PTO fails to meet the requirement for a *prima facie* case for a § 103(a) rejection for at least the following reasons.

It is respectfully asserted that neither Lotspiech nor Luther, either alone or in combination, suggests or describes **using a matrix of keys to produce a first set of secret device keys that are in turn used to produce a shared secret key**. The PTO asserts that Lotspiech discloses a matrix of device keys producing a “shared secret key.” The PTO does not assert that Luther provides the necessary middle step. Therefore, even if the combination were proper, although Applicants believe that it is not, nonetheless, the combination would still fail to produce the invention as recited in the rejected claims. It is, therefore, respectfully requested that the rejection of this claim be withdrawn.

Claims 2-4, 11-14 and 20 either depend from and include the limitations of claim 1, or include a substantially similar and patentably distinct limitation as claim 1. Therefore, these claims patentably distinguish from the cited patents on the same basis as claim 1. It is, therefore, respectfully requested that the PTO withdraw the rejections of claims 1-4, 11-14 and 20.


#### **4. Status of claims 21 and 22**

The PTO has noted via form PTO-326 that claims 1-27 are rejected. However, Applicant is unable to determine why claims 21 and 22 are rejected. Applicant respectfully requests clarification regarding these claims. Specifically, are the claims allowed, rejected, or merely objected to as being dependent upon rejected claim 21?

CONCLUSION

In view of the foregoing, it is respectfully asserted that all claims pending in this application, as amended, are in condition for allowance. If the Examiner has any questions, they are invited to contact the undersigned at 503-264-7002. Reconsideration of this patent application and early allowance of all claims is respectfully requested.

Respectfully submitted,

  
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Dated:

11/23/03

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